DOCUMENT RESUME

ED 283 871 TM 870 407

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TITLE Report of Evaluation: Reading and Mathematics Lab Program. Chapter II, E.C.I.A., 1985-86.
INSTITUTION Des Moines Public Schools, IA. Dept. of Evaluation and Research.
PUB DATE 10 Oct 86
NOTE 31p.
PUB TYPE Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Achievement Gains; Elementary Secondary Education; Evaluation Criteria; *Mathematics Achievement; Mathematics Instruction; Mathematics Tests; Pretests Posttests; Program Budgeting; *Program Evaluation; *Reading Achievement; *Reading Centers; Reading Tests; Remedial Reading; Standardized Tests; Tables (Data)
IDENTIFIERS *Education Consolidation Improvement Act Chapter 2; Normal Curve Equivalent Scores

ABSTRACT

This report evaluates the reading and mathematics lab programs for elementary and secondary students in the Des Moines (Iowa) Independent Community School District. The reading program served 510 students in 13 schools and mathematics program served 240 students in 7 schools. A variety of assessment instruments were used to pinpoint students' particular instructional needs. Particulars of program implementation and budgeting are followed by a detailed list of performance and process objectives used for evaluation. Pretest-posttest gains in Normal Curve Equivalents (an equal-intervals scale) showed students surpassing criterion levels set for reading and mathematics. The largest gains in reading occurred for Grade 2 (13.5 units) and the largest gains in mathematics were in Grade 5 (9.6 units). Reading lab students attained 87.4% of stated curricular objectives, but mathematics lab students attained 76.3%, below the 80% criterion. First-grade lab students participated in standardized evaluations for the first time this year, and while there were no set criteria for them, their performance gains were seen as quite encouraging. (LPG)

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ED283871

# REPORT OF EVALUATION

## READING AND MATHEMATICS LAB PROGRAM
## CHAPTER II, E.C.I.A.

1985-86

Department of Evaluation, Research and Testing
Des Moines Independent Community School District
1800 Grand Avenue
Des Moines, IA 50307-3382

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Approved by: _____

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Director of Evaluation, Research and Testing

October 10, 1986

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TM 870 407

DES MOINES INDEPENDENT COMMUNITY SCHOOL DISTRICT
DEPARTMENT OF EVALUATION, RESEARCH AND TESTING
EVALUATION ABSTRACT

October 10, 1986

| | |
|---|---|
| PROJECT TITLE: | Reading and Mathematics Lab Program (Chapter II Block Grant) |
| COORDINATOR: | Mary J. Wagner |
| STAFF: | 0.5 Coordinator<br>11.5 Reading Teachers (FTE)<br>5.5 Math Teachers (FTE)<br>(FTE = Fulltime Equivalency) |
| OPERATIONAL SITES: | Adams (reading only), Garton, Greenwood Hanawalt, Hubbell (reading only), Moore, Windsor, Woodlawn, Brody (reading only), Meredith, Merrill, Hoover (reading only), Roosevelt (reading only) |
| POPULATION SERVED: | Reading = 510<br>Math = 240<br>Total Duplicated Count = 750<br>Some students were served in both reading and math labs and were counted twice. |
| FUNDING: | Source: Chapter II, E.C.I.A. and Local (actual dollars from Voluntary Transfer Program budget) |
| | Amount Budgeted: $293,138.00 (Chapter II)<br>197,611.00 (local)<br>$490,749.00 (total) |
| | Amount Expended: $292,866.42 (Chapter II)<br>199,164.22 (local)<br>$492,030.64 (total) |
| COST PER PUPIL: | A total of 750 students were served for 80 days or more. The cost per pupil as of this date was $656.04 |

COMMENTS:

1. Students in both the reading and mathematics lab programs surpassed the criterion levels established for gains in Normal Curve Equivalent (NCE) units between pre and posttesting with the standardized evaluation instrument. (The Normal Curve Equivalent or NCE is a scale much like the percentile scale except it is based on equal intervals between each unit, making it more accurate in measuring gains). The largest gains in reading occurred at the second grade level (13.5 units) while in math the largest gain occurred in fifth grade (9.6 units).

2. Students in the reading lab program attained 87.4 percent of the objectives introduced to them in their educational plans thereby surpassing the criterion on 80 percent specified in a program objective.

3. This was the initial year in which first grade students completed the standardized test instrument used to measure growth. While no criteria for performance of first grade students were specified, the data indicate that this group fared extremely well. In reading comprehension, first graders in the reading lab program demonstrated a gain of 16.4 NCE units. In the composite mathematics score, lab program students gained 7.3 NCE units.

RECOMMENDATIONS:

1. Continued emphasis should be placed in the area of mastery of objectives introduced through the educational plan for mathematics lab students. The percent of mastery in 1985-86 (76.3) was somewhat higher than in the previous two years, but still failed to attain the specified criterion level of 80 percent mastery.

2. Criterion levels for performance of first grade students in both reading and mathematics on the standardized program evaluation instrument should be established. These should be written into performance objectives and included in the program proposal for the Reading and Mathematics Lab Program.

A copy of the complete Report of Evaluation for the Reading and Mathematics Lab Program is available upon request from the Department of Evaluation, Research and Testing, Des Moines Public Schools, 1800 Grand Avenue, Des Moines, Iowa 50307-3382.

# I. PROGRAM DESCRIPTION

## Origin of the Program

A program providing additional reading and math services to students through use of Title VI, Elementary and Secondary Assistance Act (E.S.A.A.) funds was originally implemented during the second semester of the 1977-78 school year. During the initial semester, the program operated at several sites that also received Title I (now known as Chapter I) services. In the fall of 1978, however, funds were used to hire staff that would serve students only at Voluntary Transfer Program sites - students that would have ordinarily qualified for Chapter I services at a Chapter I school, but who were attending another school as part of the Voluntary Transfer Program. This practice has continued since that time. Beginning with the 1982-83 school year, funds for operating the program were allocated through block grant funds (Educational Consolidation Improvement Act, Chapter II) and by the Voluntary Transfer Program. The program is now known as the Reading and Mathematics Lab Program.

## Educational Activities

Prior to planning individualized programs in reading, teachers used tests to diagnose individual reading deficiencies in addition to those used in needs assessment. Some of the tests used included the following:

Informal Reading Inventory
Informal Phonics Survey
Durrell Listening Test
Ekwall Reading Inventory.
Stanford Diagnostic Reading Test

Program teachers used a variety of techniques and materials to supplement the reading instruction provided by regular classroom teachers. In Grade 1, the Waupun Strategies in Early Childhood Education objectives were followed until completion of the auditory verbal and visual verbal objectives. When this occurred and the student was considered to be ready for formal reading instruction, the Systematic Approach to Reading Improvement (SARI) management system was used. This management system is based upon performance objectives and uses criterion referenced tests for determining mastery. For grades 6-8, the district's basal reading objectives were used.

The objective of the program design is to expedite individually guided instruction for reading skill development. Transitional school Reading Lab teachers base instruction in part on the district's social science objectives. Reading instructional strategies were utilized in teaching the social science content area text. At the end of the year, students were given a modified version of the district's geography objectives based test. Educational plans detailed the sequence of objectives introduced and achieved by each student. These plans were maintained by the teachers and monitored by the program coordinator. For grades 9-12 the district's secondary reading objectives were used as guidelines for instructional objectives being taught. Group charts were maintained by program teachers and monitored by the program coordinator.

Student team learning situations which reflected a multicultural, nonsexist approach were implemented throughout the 1985-86 school year by the Reading and Mathematics Lab Program teachers. Students were encouraged to assume leadership roles and interact positively with their peers while striving for established group goals based on their academic objectives. The program coordinator monitored these activities. Written lesson plans were submitted as documentation for the activity.

## Organization for Instruction

### Reading

Reading teachers instructed small groups of students for about 150 minutes per group weekly at the elementary level and from about 165 minutes to 215 minutes per group weekly at the secondary level (depending on building). The elementary and transitional teacher-student ratios ranged from 1-10 during each instructional period, with each teacher instructing a maximum of 50 students daily. At the high school level 45 to 55 students were served daily depending on scheduling limitations. Elementary students receiving Reading Lab services had reading instruction from both the classroom teacher and the Chapter II reading teacher. Instruction by the lab teacher took place in a designated reading area.

Secondary students received reading instruction in small group classes in addition to regular attendance in English or reading classes. Students were scheduled into Reading Lab classes from study halls or classes other than English or reading. The major purpose of the secondary program was to provide students who were not functioning appropriately in academic achievement an opportunity which would lead to full participation in the regular school program.

### Mathematics

Each program math teacher instructed a maximum of 50 students with each elementary pupil receiving approximately 150 minutes of instruction weekly and each secondary pupil receiving about 215 minutes of instruction per week. Math teachers provided supplemental instruction on the concepts or skills presented by the classroom teacher according to one of the following modes:

a. During regular math periods: 50% of the period daily

or

b. During periods <u>other</u> than the regular math periods.

As in the reading program, lab teachers organized their groups in such a manner that students residing in the school attendance area were served simultaneously with the Voluntary Transfer Program students. This was done to insure that transfer students were not segregated in the receiving school.

<u>Program Enrollment</u>

Exhibits 1 and 2 below show the buildings with a lab program in reading and/or mathematics, the fulltime equivalency of the lab staff at each building and the number of students served, both voluntary transfer and local neighborhood. The figures include only students who were enrolled 80 days or more according to records kept by each teacher.

EXHIBIT 1

Students Served--Reading Lab Program

| School | Teacher FTE | VTP Students | Neighborhood Students | Total Students |
|---|---|---|---|---|
| Adams | 0.5 | 11 | 12 | 23 |
| Garton | 1.0 | 16 | 33 | 49 |
| Greenwood | 1.0 | 26 | 17 | 43 |
| Hanawalt | 0.5 | 15 | 14 | 29 |
| Hubbell | 0.5 | 10 | 8 | 18 |
| Moore | 1.0 | 19 | 22 | 41 |
| Woodlawn | 1.0 | 9 | 38 | 47 |
| Windsor | 1.0 | 36 | 13 | 49 |
| Brody | 1.0 | 17 | 28 | 45 |
| Meredith | 1.0 | 25 | 16 | 41 |
| Merrill | 1.0 | 25 | 8 | 33 |
| Hoover | 1.0 | 25 | 20 | 45 |
| Roosevelt | 1.0 | 21 | 26 | 47 |
| All Schools | 11.5 | 255 | 255 | 510 |

EXHIBIT 2

Students Served--Math Lab Program

| School | Teacher FTE | VTP Students | Neighborhood Students | Total Students |
|---|---|---|---|---|
| Garton | 1.0 | 16 | 31 | 47 |
| Greenwood | 0.5 | 12 | 12 | 24 |
| Hanawalt | 0.5 | 13 | 11 | 24 |
| Moore | 0.5 | 12 | 10 | 22 |
| Woodlawn | 1.0 | 9 | 32 | 41 |
| Meredith | 1.0 | 16 | 20 | 36 |
| Merrill | 1.0 | 27 | 19 | 46 |
| All Schools | 5.5 | 105 | 135 | 240 |

In addition to the 17.0 teaching positions, there was a halftime coordinator position for this program. This created a total fulltime equivalency staff of 17.5. Teachers were encouraged to serve students from both the attendance area of the program buildings (neighborhood students) and those attending their building as a result of the Voluntary Transfer Program (VTP) on an approximately equal basis in numbers. As shown in the above exhibits, students were split fairly evenly between these two categories when total program enrollment is considered, even though there were a few instances of considerable variation within buildings.

Theories Utilized in the Program

Instructional techniques used in the Reading and Mathematics Lab Program borrow heavily from theories developed by individuals such as Piaget, Bruner, Skinner, Maslow, Glasser, and Dienes.

In summary, the theories emphasize:

a. Children learn in different ways in different periods of cognitive development. Since most of the children in elementary schools are in Piaget's concrete operational period the appropriate instructional technique is to provide experiences at this level and progress into the representational level. This must be done before expecting children to operate with concepts at the abstract level.

b. Children must conserve attributes (number, mass,distance, volume) before concepts involving those attributes can be learned.
c. The ideas of assimilation, accommodation and the principle of multiple embodiment imply that children need many concrete experiences and time to grasp concepts and skills before mastery can be expected.
d. Children must be active participants in their own learning.
e. The concept of readiness operates at all stages of learning.
f. Students' self-concepts and expectations for themselves are related to their achievement.
g. Teacher expectations for and attitudes toward students affect student performance.

Inservice Activities

Various inservice activities were conducted throughout the 1985-86 school year. Due to the similarities between the lab and Chapter I programs, the lab program staff attended some of the same sessions as the Chapter I program teachers. During the school year, the staff participated in meetings on content, methodology, testing and organizational procedures. These meetings were conducted as needed by the program coordinator. Lab program teachers attended local or regional professional meetings as funds permitted. The opportunity for teacher participation in inservice presentations provided professional growth experiences for program teachers. Teachers also conducted informational meetings as needed within their buildings to familiarize staff with lab program procedures, goals, and objectives. The program coordinator assisted in this building communication.

Parent Contact and Participation

A major effort was made to communicate with the parents of students served by the program. To accomplish this, Reading and Mathematics Lab personnel engaged in the following activities:

a. made home visits;

b. invited parents of participating students by letter, telephone or in person to visit and/or assist in their son's or daughter's class;
c. invited parents to conferences and open house functions by letter, telephone or in person.

In order to successfully complete parent contacts, elementary program teachers were not scheduled for instructional duties one-half day bi-monthly during the first semester in order to confer with parents and/or arrange for conferences. This half day was also used by teachers for activities such as testing, inservice meetings and working with classroom teachers. Secondary teachers utilized their regularly scheduled planning time for the purposes of planning, home visits, and diagnosis and prescription. Transitional school teachers were not scheduled for instructional duties four half-days during the year for inservice training.

## II. BUDGET AND EXPENDITURES

Funding for this program was provided through provisions of the Education Consolidation and Improvement Act (E.C.I.A.) - Chapter II and the district budget for the Voluntary Transfer Program. Data for Exhibit 3 was provided by the Controller's Office and the Office of Intercultural Programs.

EXHIBIT 3

Budget and Expenditures
(As of August 1, 1986)

| Category | E.C.I.A. (Chapter II) Budgeted | E.C.I.A. (Chapter II) Expended | District (actual dollars) Budgeted | District (actual dollars) Expended |
|---|---|---|---|---|
| Salaries & Benefits | 280,038.00 | 280,478.39 | 197,611.00 | 199,164.22 |
| Contracted Services | 1,500.00 | 1,017.83 | | |
| Instructional Material/Supplies | 3,000.00 | 2,994.19 | | |
| Travel | 1,400.00 | 1,176.01 | | |
| Indirect Costs | 7,200.00 | 7,200.00 | | |
| Total | 293,138.00 | 292,866.42 | 197,611.00 | 199,164.22 |

## III. RESULTS OF EVALUATION

During the 1985-86 school year, six process and five performance objectives were used in evaluation of the Reading Lab Program. Four process and four performance objectives were used to evaluate the mathematics component. The process objectives dealt with various activities carried out by program teachers while performance objectives dealt with learning outcomes of students. Although the reading and mathematics projects are covered by separate sets of objectives, they will be dealt with jointly in this evaluation report due to the similarity in the design and activities of the two programs.

An accountability file was prepared for the project in order to facilitate the collection and storage of supportive data for each objective. The file was maintained in the office of the project coordinator at Meredith Transitional School, with a duplicate copy in the Department of Evaluation, Research and Testing.

In this report of evaluation, performance and process objectives for the reading program will be listed first followed by those for the mathematics program. Each objective will be quoted, followed by the evaluation pertaining to that objective. A summary of the major comments and recommendations appear in the final section of this report.

Performance Objectives - Reading Lab Program

III A 1. At the end of the instruction year, lab students in grades 2-3 enrolled in the reading program a minimum of eighty days will demonstrate a proficiency on the vocabulary and reading comprehension subtests of the selected evaluation instrument* such that the average gain for grades 2-3 in NCEs will be at least 7.0.

Documentation: Scores from fall and spring testing submitted to the Director of Evaluation at the end of the program year.

III A 2. At the end of the instruction year, lab students in grades 4-8 enrolled in the reading program for at least eighty days will demonstrate a proficiency on the vocabulary and comprehension subtests of the selected evaluation instrument* such that the average gain for grades 4-8 in NCEs will be at least 3.0.

Documentation: Scores from fall and spring testing submitted to the Director of Evaluation at the end of the program year.

III A 3. At the end of the instruction year, lab students in grades 9-12 enrolled in the reading program a minimum of eighty days will demonstrate a proficiency on the Iowa Test of Educational Development (I.T.E.D.) tests such that the average gain for grades 9-12 in NCEs will be at least 2.5.

Documentation: Iowa Test of Educational Development scores from the fall and spring testing submitted to the Director of Evaluation at the end of the program year.

*California Achievement Test
Metropolitan Achievement Test
Iowa Tests of Basic Skills

Table 1 provides the information necessary to evaluate objectives IIIA1, IIIA2 and IIIA3.

TABLE 1
VOCABULARY AND READING COMPREHENSION,[1]
IOWA TESTS OF BASIC SKILLS (PRE/POST)
1985-86

| | VOCABULARY | | | | READING COMPREHENSION | | | |
|---|---|---|---|---|---|---|---|---|
| GRADE | N | PRE | POST | GAIN | N | PRE | POST | GAIN |
| 2 | 77 | 30.1 | 44.8 | 14.7 | 78 | 30.7 | 44.2 | 13.5 |
| 3 | 52 | 27.5 | 37.2 | 9.7 | 52 | 28.8 | 38.7 | 9.7 |
| 4 | 26 | 33.7 | 43.4 | 9.7 | 26 | 34.9 | 41.8 | 6.9 |
| 5 | 19 | 35.5 | 40.8 | 5.3 | 19 | 37.5 | 42.9 | 5.4 |
| 6 | 56 | 30.9 | 41.1 | 10.2 | 55 | 37.9 | 44.9 | 7.0 |
| 7 | 45 | 32.2 | 34.6 | 2.4 | 45 | 30.7 | 34.3 | 3.6 |
| 8 | 0 | None Served | | | 0 | None Served | | |
| 9 | | No Vocabulary Subtest | | | 27 | 28.3 | 38.0 | 9.7 |
| 10 | | No Vocabulary Subtest | | | 18 | 31.6 | 37.5 | 5.9 |
| 11 | | No Vocabulary Subtest | | | 7 | 28.2 | 38.8 | 10.6 |
| 12 | | No Vocabulary Subtest | | | 2 | 39.8 | 36.7 | -3.1 |

[1]Some students in grades 4 and 6 took either the California Achievement Test or the Metropolitan Achievement Test instead of the ITBS as part of a pilot program. The scores obtained by these students are included in the data presented in Table 1.

Objective IIIA1

Objective IIIA1 states that students in grades 2 and 3 will achieve an average Normal Curve Equivalent (NCE) gain of 7.0 units. The NCE or Normal Curve Equivalent scale has been used as the metric for reporting gain scores in Chapter programs for the past several years. It is a scale that is similar in some respects to the percentile rank scale, but is different in that the distance between units at all points on the scale is composed of equal intervals. This property makes it superior to the percentile rank in measuring a change (gain) between pre and posttesting because a specified amount of change (gain) represents the same amount of growth no matter where on the scale it occurs. The equal interval property also allows for the averaging of scores which is not meaningful with the unequal interval percentile scale.
As students in grades 2 and 3 achieved an average gain of 12.7 NCE units in vocabulary and 12.1 NCE units in reading comprehension, this objective was achieved.

Objective IIIA 2

This objective states that program students in grades 4 - 8 will achieve an average gain of 3.0 NCE units in each of the two subtests in the reading section. As the average gains displayed by reading lab students in grades 4 - 8 were 7.1 in vocabulary and 5.7 in reading comprehension, this objective was achieved.

Objective IIIA 3

Students in grades 9 - 12 were administered the appropriate level of the Iowa Tests of Educational Development (ITES) reading subtest as an evaluation instrument. In several previous years, the Degrees of Reading Power Test was administered as the evaluation instrument. It was decided to discontinue use of this test, however, as experience showed it served better as a diagnostic and placement tool than as an evaluation instrument.

The fifty four students in grades 9 - 12 with both a pre and posttest achieved a weighted average gain of 8.1 NCE units in reading as compared to a criterion of a 2.5 unit gain. This objective was achieved.

III A 4. At the end of the instruction year at least 60 percent of the lab students in first grade enrolled in the reading program a minimum of eighty days will have passed 5 out of 6 SARI (Systematic Approach to Reading Improvement) level 2 pre and posttests.

Documentation: SARI scores submitted to the Director of Evaluation at the end of the program year.

Table 2 shows the number and percent of students who passed at least 5 of the 6 subtests that are given in level 2 of the Systematic Approach to Reading Improvement (SARI) management system.

TABLE 2

SARI Level 2 Results
Reading Lab Program - Grade 1
1985-86

| School | Number of Students (Gr.1) | Number Passing 5 of 6 Tests | Percent |
|---|---|---|---|
| Adams | 8 | 8 | 100.0 |
| Garton | 16 | 16 | 100.0 |
| Greenwood | 10 | 7 | 70.0 |
| Hanawalt | 10 | 6 | 60.0 |
| Hubbell | 6 | 6 | 100.0 |
| Moore | 10 | 7 | 70.0 |
| Windsor | 11 | 4 | 36.4 |
| Woodlawn | 9 | 9 | 100.0 |
| All Schools | 80 | 63 | 78.8 |

Table 2 shows that sixty three of the 80 students served (78.8 percent) passed at least 5 of the 6 subtests in level 2. Many students passed all 6 tests at this level and went on to pass some of the tests in level 3. At Windsor Elementary, only 36.4 percent (4 of 11) first grade students pass 5 of the 6 level 2 tests. This objective was achieved.

III A 5. Students in grades 1-8 enrolled in the program a minimum of eighty days will demonstrate reading proficiency by mastering an average of 80 percent of the reading objectives introduced to them on their educational plans.

Documentation: Semester summary report submitted at the end of the year to the Program Coordinator and Department of Evaluation. Educational plans on file with the reading lab teacher.

Table 3 presents data on objectives introduced to and achieved by students in the Reading Lab Program. The objectives presented are a part of each student's individual educational plan. Only data for students enrolled 80 days or more are reported.

TABLE 3

Reading Objectives Introduced and Attained

| Grade | N | Average Number of Objectives Introduced | Percent Attained |
|---|---|---|---|
| 1 | 79 | 21 | 89.0 |
| 2 | 92 | 23 | 88.1 |
| 3 | 59 | 22 | 85.4 |
| 4 | 33 | 19 | 77.8 |
| 5 | 21 | 18 | 84.0 |
| 6 | 64 | 25 | 87.1 |
| 7 | 55 | 25 | 91.9 |
| 8 | No Students Served | | |
| 1-8 | 403 | 22 | 87.4 |

The total group of students in grades 1-8 achieved 87.4 percent of the objectives introduced to them. When examining the data by grade level, it can be seen that only at grade 4 did the level of mastery fall below the criterion of 80 percent. This represents an improvement from 1984-85 when students in each of the grades 4, 5 and 6 failed to reach the established criterion. This objective was achieved.

Teacher Process Objectives - Reading Program

IV B 1. High school teachers will plan and provide objective based instruction for students in grades 9-12 enrolled in the reading program a minimum of eighty days. This instructional plan will be based on the District's high school reading objectives.

Documentation: Semester summary report submitted at the end of the year to the Program Coordinator and the Department of Evaluation. Group objective based grids on file with the reading lab teacher.

Semester summary reports submitted at the end of the school year indicated that reading lab teachers at the senior high level provided objective based instruction. The number of objectives introduced and mastered by each student was indicated on these reports. The program coordinator monitored the completion of the grids used for recordkeeping during school year visits to the reading labs. This objective was achieved.

IV B 2. First semester program teachers for grades 1-5 will have had personal contact (at home, school, or other prearranged location) with parents of at least 80 percent of the total number of students enrolled in the program for a minimum of twenty days.

IV B 3. First semester program teachers for grades 6-8 will have had personal contact (at home, school, or other prearranged location) with parents of at least 65 percent of the total number of students enrolled in the program for a minimum of twenty days.

IV B 4. First semester program teachers for grades 9-12 will have had personal contact (at home, school, or other prearranged location) with parents of at least 50 percent of the total number of students enrolled in the program for a minimum of twenty days.

IV B 5. Second semester this personal contact may include telephone contacts. Program teachers K-12 will have had personal contact with parents of 80 percent of the total number of students enrolled in the program a minimum of twenty days.

Documentation: Parent contact report on the semester summary submitted to the Program Coordinator and the Department of Evaluation in January and at the end of the year.

Tables 4 and 5 contain the information necessary to evaluate objectives IV B 2, 3, 4 and 5 which concern teacher/parent contacts made during the 1985-86 school year.

TABLE 4

Contacts With Parents of Reading Lab Students
First Semester
1985-86

| School | Number of Students | Number Contacted Personally * | Percent | Total Contacts ** |
|---|---|---|---|---|
| Adams | 22 | 17 | 77.3 | 17 |
| Garton | 53 | 46 | 86.8 | 76 |
| Greenwood | 44 | 41 | 93.2 | 45 |
| Hanawalt | 28 | 26 | 92.9 | 27 |
| Hubbell | 21 | 19 | 90.5 | 19 |
| Moore | 47 | 43 | 91.5 | 71 |
| Windsor | 50 | 46 | 92.0 | 74 |
| Woodlawn | 49 | 43 | 87.8 | 58 |
| Grades 1-5 | 314 | 281 | 89.5 | 387 |
| Brody | 46 | 46 | 100.0 | 124 |
| Meredith | 41 | 38 | 92.7 | 50 |
| Merrill | 35 | 27 | 77.1 | 111 |
| Grades 6-8 | 122 | 111 | 91.0 | 285 |
| Hoover | 41 | 25 | 61.0 | 36 |
| Roosevelt | 38 | 32 | 84.2 | 32 |
| Grades 9-12 | 79 | 57 | 72.2 | 68 |

*Personal contacts during the first semester include home visits, and visits by parents to school.

**Total contacts include those in the above categories plus telephone calls and letters or notices sent to the home.

TABLE 5

Contacts With Parents of Reading Lab Students
Second Semester
1985-86

| School | Number of Students | Number Contacted Personally * | Percent | Total Contacts ** |
|---|---|---|---|---|
| Adams | 23 | 23 | 100.0 | 43 |
| Garton | 51 | 44 | 86.3 | 67 |
| Greenwood | 41 | 39 | 95.1 | 62 |
| Hanawalt | 27 | 23 | 85.2 | 26 |
| Hubbell | 18 | 18 | 100.0 | 53 |
| Moore | 40 | 32 | 80.0 | 32 |
| Windsor | 54 | 51 | 94.4 | 52 |
| Woodlawn | 45 | 41 | 91.1 | 41 |
| Brody | 45 | 30 | 66.7 | 31 |
| Meredith | 42 | 40 | 95.2 | 67 |
| Merrill | 33 | 30 | 90.9 | 42 |
| Hoover | 44 | 35 | 79.5 | 55 |
| Roosevelt | 38 | 16 | 42.1 | 16 |
| Grades 1-12 | 501 | 422 | 84.2 | 587 |

*Personal contacts during the second semester include those made through home visits, visits to school by parents and telephone calls made by the teacher to the home.

**Total contacts include categories above plus letters or notices sent to the home.

All reading lab teachers were required to contact parents of students served to discuss the progress of students and to answer questions or provide information about the program. Criterion levels were different depending on the grade level of the student and whether the contact was made during the fall or spring semester.

During the fall semester parents of 80 percent of the elementary (grades 1-5) students, 65 percent of the transitional (grades 6-8) students and 50 percent of the senior high (grades 9-12) students served for 20 days or more were to be contacted personally. This meant that the teacher either made a home visit or visited with the parent in person at school or at another prearranged location. A telephone call to the

home or a letter sent did not constitute a personal contact during the first semester. During the spring semester parents of 80 percent of all students served 20 days or more were to be contacted personally (irrespective of student grade level) and telephone calls were counted as personal contacts along with visits by the teacher to the home or visits by the parent to school.

All four objectives pertaining to parent contacts were achieved. During the first semester, parents of 89.5 percent of the elementary, 91.0 percent of the transitional and 72.2 percent of the senior high students were contacted (criterion levels were 80 percent, 65 percent and 50 percent for elementary, transitional and senior high school respectively). During the second semester, personal contacts were made to parents of 84.2 percent of the students. This compared to a criterion of 80 percent. All buildings except Brody, Hoover and Roosevelt surpassed the criterion during the second semester. A total of 740 contacts (including all methods) were made during the first semester followed by 587 during the second semester.

Overall, the staff is to be commended for their continuing fine work in this area. Objectives IVB2, 3, 4 and 5 were achieved.

IV B 6. Student team learning concepts and procedures reflecting a multicultural nonsexist approach are to be incorporated into lab program instruction.

Documentation: Specific lesson plans submitted to the Program Coordinator and the Department of Evaluation.

For the past several years, reading lab teachers have incorporated team learning concepts using a multicultural, nonsexist approach in their instruction. Teachers were asked to submit as documentation of

of this a lesson plan outlining a specific lesson presented. Lesson plans were received from all teachers. A review of the lesson plans submitted revealed that a wide variety of activities were conducted that involved student planning and working together toward a defined goal. This objective was achieved.

Performance Objectives - Mathematics Lab Program

III A 1. At the end of the instruction year, lab students in grades 2-5 enrolled in the mathematics program a minimum of eighty days will demonstrate a proficiency on the mathematics composite score of the selected evaluation instrument* such that the average gain for grades 2-5 in NCEs will be at least 5.0.

Documentation: Scores from fall and spring testing submitted to the Director of Evaluation at the end of the program year.

III A 2. At the end of the instruction year, lab students in grades 6-8 enrolled in the mathematics program a minimum of eighty days will demonstrate a proficiency on the mathematics composite score of the selected evaluation instrument* such that the average gain for grades 6-8 in NCEs will be at least 3.0.

Documentation: Scores from fall and spring testing submitted to the Director of Evaluation at the end of the program year.

* Metropolitan Achievement Test (MAT)
California Achievement Test (CAT)
Iowa Tests of Basic Skills (ITBS)

Table 6 provides the information necessary to evaluate objectives IIIA1 and IIIA2.

TABLE 6
TOTAL MATHEMATICS
IOWA TESTS OF BASIC SKILLS (PRE/POST)[1]
1985-86

| Grade | N | Pre | Post | Gain |
|---|---|---|---|---|
| 2 | 25 | 29.9 | 35.5 | 5.6 |
| 3 | 23 | 34.1 | 35.4 | 1.3 |
| 4 | 23 | 36.0 | 43.0 | 7.0 |
| 5 | 23 | 26.4 | 36.0 | 9.6 |
| 6 | 44 | 40.2 | 47.3 | 7.1 |
| 7 | 14 | 31.1 | 28.7 | -2.4 |
| 8 | 0 | None Served | | |

[1]Some students in grades 4 and 6 took either the California Achievement Test or the Metropolitan Achievement Test instead of the ITBS as part of a pilot program. The scores obtained by these students are included in the data presented in Table 6.

Objective IIIA1

This objective states that students in grades 2 - 5 will demonstrate a gain of 5.0 NCE units in the total math or math composite score. The weighted average gain for grades 2-5 was 5.8 NCE units. This objective was achieved.

Objective IIIA2

Objective IIIA2 states that students in the mathematics lab program at the transitional level will achieve an average NCE gain of 3.0. Students at these grade levels achieved a weighted average gain of 4.8 NCE units. This objectivwe was achieved.

III A 3. At the end of the instruction year, at least 55 percent of the lab students in first grade enrolled in the mathematics program a minimum of eighty days will achieve a score on the Des Moines Mathematics Objective Based Test above the criteria score (used for selection of students for Mathematics Lab Program services).

Documentation: Mathematics Objective Based Test scores submitted to the Director of Evaluation at the end of the program year.

A total of 39 first grade students were enrolled in the Mathematics Lab Program for 80 days or more. Scores on the district Objectives Based Mathematics Test administered during the spring of 1985 were available for 35 of these students. While this test is administered to all first grade students in the district for curriculum evaluation purposes it is also used to assist in the selection of students for Chapter I Mathematics and the Mathematics Lab Program.

The first grade mathematics test contains 40 items. The "selection score" (the score below which students will be selected for participation in the mathematics lab program in 1986-87) is 32 items answered correctly out of the 40. The average score obtained by 1985-86 mathematics lab program students was 32.0 (80.0 percent) of the items answered correctly. This compares to an average score of 35.1 (87.8 percent) of the items answered correctly by all students in the district taking the test, a total of 2,449 pupils.

The objective states that 55 percent of the lab program students would achieve a score above the selection score of 32; i.e., 33 or above. The results indicate that 19 of the 35 lab program students scored 33 or above. This represents 54.3 percent of the students. While this objective was not achieved, it should be noted that the percent of students that attained the specified performance on the test was lower than the criterion level by less than 1 percent.

III A 4. Students in grades 1-8 enrolled in the program a minimum of eighty days will demonstrate mathematics proficiency by mastering 80 percent of the objectives presented to them on their educational plans.

Documentation: Semester Summary report submitted at the end the Department of Evaluation. Student educational plans on file with the Mathematics Lab teacher.

Table 7 presents data on objectives introduced to and achieved by students in the Mathematics Lab Program. The objectives presented are a part of each student's individual educational plan. Only data for students enrolled 80 days or more are reported.

TABLE 7

Mathematics Objectives Introduced and Attained

| Grade | N | Average Number of Objectives Introduced | Percent Attained |
|---|---|---|---|
| 1 | 34 | 32 | 72.8 |
| 2 | 32 | 40 | 77.6 |
| 3 | 30 | 40 | 70.6 |
| 4 | 26 | 41 | 73.9 |
| 5 | 28 | 45 | 75.1 |
| 6 | 55 | 67 | 77.4 |
| 7 | 24 | 82 | 81.1 |
| 8 | No Students Served | | |
| 1-8 | 229 | 50 | 76.3 |

Table 7 indicates that 76.3 percent of the objectives introduced to students in grades 1-8 were achieved, falling below the criterion of 80 percent. By grade level, only students in grade 7 achieved the criterion level specified.

The percent of mastery attained in 1985-86 (76.3) was somewhat higher than that attained in 1984-85 (72.5) and in 1983-84 (71.9). However, it is recommended that continued emphasis be applied in this area in order to improve the mastery level of objectives in the ecuational plans. This objective was not achieved.

Process Objectives - Mathematics Lab Program

IV B 1. First semester program teachers for grades 1-5 will have had personal contact (at home, school, or other prearranged location) with parents of at least 65 percent of the total number of students enrolled in the program for a minimum of twenty days.

IV B 2. First semester program teachers for grades 6-8 will have had personal contact (at home, school, or other prearranged location) with parents of at least 65% of the total number of students enrolled in the program for a minimum of twenty days.

IV B 3. Second semester this personal contact may include telephone contacts. Program teachers K-8 will have had personal contact with parents of 80% of the total number of students enrolled in the program a minimum of twenty days.

Documentation: Parent contact report on the semester summary submitted to the Program Coordinator and the Department of Evaluation in January and at the end of the year.

Tables 8 and 9 contain the data necessary to evaluate objectives IV B 1, 2 and 3 which concern teacher contacts with parents of students in the Mathematics Lab Program during 1985-86.

TABLE 8

Mathematics Parent Contacts
First Semester

| School | Number of Students | Number Contacted Personally * | Percent | Total Contacted ** |
|---|---|---|---|---|
| Garton | 49 | 38 | 77.6 | 56 |
| Greenwood | 26 | 18 | 69.2 | 20 |
| Hanawalt | 26 | 20 | 83.3 | 24 |
| Moore | 23 | 19 | 82.6 | 19 |
| Woodlawn | 42 | 37 | 88.1 | 43 |
| Grades 1-5 | 164 | 132 | 80.5 | 162 |
| Meredith | 37 | 25 | 67.6 | 28 |
| Merrill | 40 | 39 | 97.5 | 79 |
| Grades 6-8 | 77 | 64 | 83.1 | 107 |

* Personal contacts during the first semester include home visits and visits by parents to school.

** Total contacts include those in the above categories plus telephone calls and letters or notices sent to the home.

TABLE 9

Mathematics Parent Contacts
Second Semester

| School | Number of Students | Number Contacted Personally * | Percent | Total Contacted ** |
|---|---|---|---|---|
| Garton | 46 | 38 | 82.6 | 42 |
| Greenwood | 23 | 14 | 60.9 | 14 |
| Hanawalt | 26 | 13 | 50.0 | 14 |
| Moore | 23 | 17 | 73.9 | 17 |
| Woodlawn | 40 | 36 | 90.0 | 39 |
| Meredith | 36 | 35 | 97.2 | 54 |
| Merrill | 44 | 33 | 75.0 | 46 |
| Grades 1-8 | 238 | 186 | 78.2 | 226 |

* Personal contacts during the second semester include home visits, visits by parents to school and telephone calls made by the teacher to the home.

** Total contacts include those in the above categories plus letters or notices sent to the home.

As in the reading lab program the criterion levels for the objectives involving parent contact were different for the first and second semester. During the first semester, parents of 65 percent of the students (elementary and transitional) were to be contacted through home visits by the teacher or visits to school by the parent. Telephone calls to the home do not count as personal contacts during the first semester. During the second semester, the criterion was the same for both the elementary and transitional levels - parents of 80 percent of the students were to be contacted through home visits, visits to school, or telephone calls.

The objectives for parent contacts during the first semester (IV B 1 and IV B2) were achieved. Table 9 indicates that parents of 80.5 percent of the students in grades 1-5 and 83.1 percent of the students in grade 6-8 were contacted personally. During the second semester, parents of 78.2 percent of the students were contacted. This falls slightly below the

criterion of 80 percent yet indicates improvement from 1984-85 when parents of only 71.0 percent of the students were contacted. Objectives IV B 1 and IV B 2 were achieved. Objective IV B3 was not achieved.

IV B 4. Student team learning concepts and procedures reflecting a multicultural nonsexist approach are to be incorpoated into Lab Program instruction.

Documentation: Specific lesson plans submitted to the Program Coordinator and the Department of Evaluation.

For the past several years, Mathematics lab teachers have incorporated team learning concepts using a multicultural, nonsexist approach in their instruction. Teachers were asked to submit as documentation of this a plan outlining a specific lesson presented. Lesson plans were received from all teachers. A review of the lesson plans submitted revealed that a wide variety of activities were conducted that involved student planning and working together toward a defined goal. This objective was achieved.

## IV COMMENTS

1. Students in both the reading and mathematics lab programs surpassed the criterion levels established for gains in Normal Curve Equivalent (NCE) units between pre and posttesting with the standardized evaluation instrument. (The Normal Curve Equivalent or NCE is a scale much like the percentile scale except it is based on equal intervals between each unit, making it more accurate in measuring gains). The largest gains in reading occurred at the second grade level (13.5 units) while in math the largest gain occurred in fifth grade (9.6 units).
2. Students in the reading lab program attained 87.4 percent of the objectives introduced to them in their educational plans thereby surpassing the criterion on 80 percent specified in a program objective.
3. This was the initial year in which first grade students completed the standardized test instrument used to measure growth. While no criteria for performance of first grade students were specified, the data indicate that this group fared extremely well. In reading comprehension, first graders in the reading lab program demonstrated a gain of 16.4 NCE units. In the composite mathematics score, lab program students gained 7.3 NCE units.

## V RECOMMENDATIONS

1. Continued emphasis should be placed in the area of mastery of objectives introduced through the educational plan for mathematics lab students. The percent of mastery in 1985-86 (76.3) was somewhat higher than in the previous two yeas, but still failed to attain the specified criterion level of 80 percent mastery.

2. Criterion levels for performance of first grade students in both reading and mathematics on the standardized program evaluation instrument should be established. These should be written into performance objectives and included in the program proposal for the Reading and Mathematics Lab Program.